

REMARKS

The Final Office Action mailed January 29, 2002, has been received and reviewed. Claims 1 through 29 are currently pending in the application. Claims 21 through 29 have been withdrawn from consideration as being drawn to a non-elected invention. Claims 1 through 20 stand rejected. Applicants propose to amend claim 1, and respectfully request reconsideration of the application as proposed to be amended herein.

35 U.S.C. § 102(e) Anticipation Rejections

Anticipation Rejection Based on U.S. Patent No. 6,147,413 to Farnworth

Claims 1 through 20 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Farnworth (U.S. Patent No. 6,147,413). Applicants respectfully traverse this rejection, as hereinafter set forth.

Farnworth discloses a semiconductor device including a bond pad (1002), a first layer of passivation film (1006) disposed between an active surface (1010) of a wafer (1004) and a conductive repattern trace (1016), the conductive repattern trace (1016) in direct contact with the bond pad (1002). Farnworth does not disclose a separate and independent element connecting the conductive repattern trace (1016) to the bond pad (1002). The conductive bond members disclosed in the Specification of the present invention, and claimed by the claims of the present invention, are not disclosed by the Farnworth Specification or Figure 2h of Farnworth. Rather, the conductive repattern trace (1016) of Farnworth forms a bond with the bond pad (1002) without the use of a conductive bond member as claimed by the present invention.

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Brothers v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Independent claim 1 is not anticipated by Farnworth. The proposed amendment to independent claim 1 recites “at least one conductive bond member connecting the at least one conductive trace to the at least one bond pad on the active surface of said semiconductor die.” The amendment to claim 1 clearly distinguishes the claimed at least one conductive bond member as a separate element from the at least one conductive trace of the same claim. Farnworth does not disclose a conductive bond member as claimed by the present invention. Although “the examiner believes that Farnworth shows (fig. 2h) the conductive bond as the portion of material in the via of layer 1006,” that portion of material is part of the repattern trace (1016) that allegedly anticipates the at least one conductive trace claimed by claim 1. *See, Official Action* at p. 3. The repattern trace (1016) of Farnworth does not expressly or inherently describe both the at least one conductive trace and the at least one conductive bond member claimed by claim 1. This is especially true in light of the proposed amendment to claim 1, which distinguishes the at least one conductive bond member as a separate element from the at least one conductive trace element. Farnworth fails to disclose a conductive bond member connecting the repattern trace (1016) to the bond pad (1002), rather, the repattern trace (1016) of Farnworth is directly connected to the bond pad (1002). Farnworth’s failure to disclose at least one conductive bond member, separate from the repattern trace (1016), precludes the present anticipation rejection of claim 1 because Farnworth does not show an invention identical to that claimed by amended claim 1. *See, Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Independent claim 2 is also allowable over the anticipation rejection based on Farnworth because Farnworth fails to disclose each and every element claimed by claim 2. *See, Verdegaal Brothers v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Specifically, Farnworth fails to disclose “a plurality of conductive bond members” as claimed by claim 2. The connection of the repattern trace (1016) of Farnworth to a bond pad (1002) of Farnworth, as shown in Figure 2h of Farnworth, does not anticipate “a plurality of conductive bond members” as claimed by claim 2 because Farnworth fails to disclose an additional element connecting the repattern trace (1016) to the bond pad (1002). More particularly, Farnworth fails to expressly or

inherently disclose a bond member “connecting each conductive trace of said plurality of conductive traces to at least one bond pad of the plurality of bond pads on the active surface of said semiconductor die.” Farnworth’s failure to disclose “a plurality of conductive bond members,” either expressly or inherently, precludes the present anticipation rejection. *See, Verdegaal Brothers v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

Dependent claims 3 through 20 are allowable over the present anticipation rejection because each of claims 3 through 20 depend from an allowable independent claim and therefore inherit all of the limitations of the allowable independent claims from which they depend. The failure of Farnworth to anticipate the conductive bond members claimed by the allowable independent claims precludes the anticipation rejection of the dependent claims as well.

Dependent claims 9 through 12 are also independently allowable over the anticipation rejection based upon Farnworth because claims 8 through 12 further describe the conductive bond members claimed in independent claim 2. Specifically, claim 9 recites the plurality of conductive bond members being “bond wires.” Farnworth does not disclose bond wires connecting the repattern trace (1016) to the bond pad (1002) and therefore fails to anticipate claim 9.

Claim 10 recites the chip-scale package of claim 9 “wherein said bond wires comprise gold or aluminum.” The failure of Farnworth to anticipate the bond wires of claim 9 also precludes an anticipation rejection of claim 10 because Farnworth does not disclose gold or aluminum bond wires.

A “plurality of conductive bond members [comprising] TAB bonds” as claimed by claim 11 is also not disclosed by Farnworth. Farnworth’s failure to expressly or inherently describe TAB bonds connecting the repattern trace (1016) to the bond pad (1002) precludes an anticipation rejection of claim 11. *See, Verdegaal Brothers v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

Claim 12 recites the chip-scale package of claim 2, “wherein said plurality of conductive bond members comprises thermocompression bonds.” Farnworth fails to disclose both a

plurality of conductive bond members, and a plurality of conductive bond members comprising thermocompression bonds. Thus, Farnworth fails to anticipate dependent claim 12.

The failure of Farnworth to disclose conductive bond members as claimed in the claims of the present invention precludes the present anticipation rejection. *See, Verdegaaal Brothers v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987); *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). Applicants respectfully request that the present anticipation rejection be withdrawn and that claims 1 through 20 be allowed for issue.

Drawings

Applicants will file corrected formal drawings upon receipt of a Notice of Allowance and Issue Fee Due in the application.

ENTRY OF AMENDMENTS

The proposed amendment to claim 1 above should be entered by the Examiner because the amendments are supported by the as-filed specification and drawings and do not add any new matter to the application. Further, the proposed amendment does not require a new search or raise new issues, as the term bond "member" is already present in the same context in independent claim 2. Should the Examiner determine that the amendments do not place the application in condition for allowance, entry is respectfully requested upon filing of a Notice of Appeal herein.

CONCLUSION

Claims 1 through 20 are believed to be in condition for allowance, and an early notice thereof is respectfully solicited. Should the Examiner determine that additional issues remain which might be resolved by a telephone conference, he is respectfully invited to contact Applicants' undersigned attorney.

Respectfully Submitted,



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Enclosure: Version With Markings to Show Changes Made

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

1. (Twice Amended) A chip-scale package comprising:
 - a semiconductor die having an active surface having at least one bond pad thereon;
 - at least one conductive trace having an upper surface and a lower surface, the lower surface of said at least one conductive trace substantially non-conductively attached to a portion of the active surface of said semiconductor die;
 - at least one conductive bond member connecting the at least one conductive trace to the at least one bond pad on the active surface of said semiconductor die;
 - at least one carrier bond attached to the upper surface of the at least one conductive trace; and
 - an encapsulant material encapsulating said semiconductor die, the at least one conductive trace, the at least one conductive bond and a portion of the at least one carrier bond, the at least one carrier bond having another portion extending beyond said encapsulant material.